

GLANDULARIA VERECUNDA (VERBENACEAE): SPECIES OR FRUIT-FORM?

B.L. Turner

University of Texas at Austin
Plant Resources Center
1 University Station F0404
Austin, TX 78712-0471, U.S.A.

In the most recent issue of *Sida*, Henrickson (2003) treated *Glandularia verecunda* Umber as a distinct species, this in sharp contrast to the present author's treatment of the taxon as but a fruit-form of *G. quadrangulata* (Heller) Umber (Turner 1999). My reason for this disposition followed several years of field work in which I could find no differences between the two hypothetical species except that of a terminal appendage on the apex of *G. verecunda*, this nicely illustrated by Henrickson's Fig. 1.

Glandularia verecunda was first proposed by Umber (1979), the species name said to be derived from the Latin word *verecundus* or "bashful," presumably in reference to the taxon's proclivity to go unnoticed, both in the herbarium and in the field. Indeed, Umber's description of the taxon nearly matches that of *G. quadrangulata*, except for the terminal appendage on the fruit. Turner (1999) clearly noted that Umber himself remarked that *G. verecunda* is "indistinguishable from *G. quadrangulata* except for the seeds," meaning the presence of an appendage on the nutlets.

Glandularia verecunda and *G. quadrangulata* are partially if not largely sympatric over most of their distributions (not "largely allopatric" as stated by Henrickson, his use of the term sympatric apparently restricted to *intrapopulation*al occurrences of the two taxa).

After a discussion "Of the three nomenclatural possibilities: (1) being inconsequential forms of each other; (2) being geographical subunits of a species, i.e. subspecies or varieties of one species; or (3) being separate species that merely co-occur in some areas," Henrickson surmises that the two taxa are distinct species "that are very similar vegetatively but can co-occur without interbreeding as no intermediates have been found." Immediately thereafter, he concluded his discussion with a terse paragraph, as follows:

"If there was evidence of interbreeding, they [sic] the two taxa could be recognized at the infraspecific level. But this does not exist. Therefore the two taxa will here be recognized as distinct species."

Henrickson comments further that "No plants have ever been discovered in nature with nutlets intermediate in structure between those of *G. quadrangulata* and *G. verecunda* ... Furthermore, no artificial hybridization has been done to

determine the condition that would be expressed in a hybrid.” Needless to say, this same comment might be applied to most any albino form occurring in natural populations; nor does one spend much effort seeking out an intermediate plant to prove the point!

Fruit forms (or fruit polymorphism) in natural populations are relatively rare, but are relatively common in some groups such as, for example, the genus *Valerianella* (Valerianaceae). The interested reader is referred to the work of Ware (1983), who detailed numerous fruit forms in *Valerianella*, several of which had long been recognized as species. For those interested in the genetics of such fruit types, the work of Xena de Enrech and Mathez (1998) might be consulted.

Fruit forms also occur in other Texas plants, for example in the genus *Thelesperma* (Asteraceae). The species *T. curvicaupum* Metchert, first described in 1963 from Burnett and Coleman counties, Texas, was subsequently shown to be but a fruit-form (Greer 1997). And it is likely that my description of *Cynoglossum hintoniorum* Turner (Boraginaceae) amounts to no more than a fruit-form of the widely distributed *C. amabile* Stapf & Drumm. (Turner 1995).

Finally, it should be reemphasized that I have called to the fore in the above-mentioned publication several populations of *G. quadrangularis* in which appendaged and nonappendaged fruits occur intermixed. The two forms can be separated only by the appendages on their nutlets, but I have no trepidation in recognizing this fruit-form as a named taxon, as follows:

Glandularia quadrangulata* forma *albida (Moldenke) B.L. Turner, comb. nov.

BASIONYM: *Verbena pumila* forma *albida* Moldenke, Phytologia 9:188. 1963.

= *Glandularia verecunda* Umber

Umber (1979) treated the forma as a synonym of his concept of *G. verecunda*. It is unfortunate to have to take up the name “albida” for this fruit-form, but the Code of Botanical Nomenclature mandates use of the earliest name in rank as having priority.

REFERENCES

- GREER, L.F. 1997. *Thelesperma curvicaupum* (Asteraceae), an achene form in populations of *T. simplicifolium* var. *simplicifolium* and *T. filifolium* var. *filifolium*. Southw. Naturalist 42:242–244.
- HENRICKSON, J.H. 2003. Studies in *Glandularia* (Verbenaceae): the *Glandularia quadrangulata* complex. Sida 20:953–967.
- TURNER, B.L. 1995. A new species of *Cynoglossum* (Boraginaceae) from Oaxaca, Mexico. Phytologia 79:306–308.
- TURNER, B.L. 1998. Texas species of *Glandularia* (Verbenaceae). Lundellia 1:3–16.
- UMBER, R.E. 1979. The genus *Glandularia* (Verbenaceae) in North America. Syst. Bot. 4:72–102.
- WARE, D.M. 1983. Genetic fruit polymorphism in North American *Valerianella* (Valerianaceae) and its taxonomic implications. Syst. Bot. 8:33–44.
- XENA DE ENREICH, N. and J. MATHEZ. 1998. Genetic control of fruit polymorphism in the genus *Fedia* (Valerianaceae) in the light of dimorphic and trimorphic populations of *F. pallescens*. Pl. Syst. Evol. 210:199–210.